

W6IFE San Bernardino Microwave Society Newsletter

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The 4 **December 1997** meeting tech talk will be George, K6MBL on digital tuning of magnetrons. SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1930 hours local time.

Last meeting- Bill, WA6QYR talked about the efforts of Dick, K6HIJ and himself to hear Apollo spacecraft in orbit of the moon during 1972. Modified SBMS rockloc rigs were used to hear the telemetry signals in the 2.2 Ghz band which appeared and disappeared at the correct time as the spacecraft was on the earth side of the lunar orbit. ED, W6OYJ had some copies of the AF1T "10 Ghz Qualcomm Modification Notes" on the tune up of the preamp and 1 w amplifier. Bill, WA6QYR noted hearing the "Sputnik 2" satellite on 145.82 Mhz released from MIR on the 40th anniversary. It should be operational for a month or two. Chip notes that http://ssl.berkeley.edu/isi_www/satpasses.html#format is a source of MIR and shuttle pass information. Welcome to new members Daniel Brieg, KM6PO of Yorba Linda, CA; Dick Wetzel, WB6JBZ of La Canada, CA. A special "beyond 3 miles" contact award was presented to Bob, W6SYA for his recent operations with his 10 Ghz gunnplexer rig. The 1996 10 Ghz contest plaque was in the mail. Dave, K6OW suggested having a VUCC card checker at a future meeting to get more activity reported. The non-rules for the George QTH-QTH event were expressed as submitting a log of all contacts "1 Ghz and up" to Ed, W6OYJ soon after the 7 March sunrise to midnight non-contest is over. There was still some confusion on the order of 15 two foot dishes from the antenna center. Chip, N6CA is to be collecting and order for 2 Ghz loop yagis on a 7 foot boom. It was noted that Joe, WA6PAZ is now the chairman of the SCRBA group and that a few other SBMS members are on that board of frequency coordinators. 26 people present at the meeting.

Activity reported at the November SBMS meeting:

Gary, W6KVC is on ATV, Ed K6ODV has 10 and 5 Ghz rigs on the air, Ken, WB6DTA built a crystal oscillator; Joe, WA6PAZ built a feed for 2.3 Ghz; Eric, KD6GLP is rebuilding a 2.4 Ghz video link; Jim, K6ML now has a 10 Ghz gunnplexer up and running and has made some contacts; Bob, W6SYA has been helping K6ML; Dave, WB6OVZ found some 24 Ghz dish and feeds; Ed, W6OYJ brought in his 10 Ghz mobile onmifeed from the contest, reported having "DX" contact via San Diego amplifier with Griffith Park station (if you can hear the beacon on 10368.027 Mhz call up 100 KHz for contacts with San Diego Microwave Group that monitor most of the time); George, K6MBL worked on his tech talk; Chuck, WA6EXV built filters for 2 Ghz and 450 Mhz to be able to operate in the pollution on Heaps Pk, presented a microwave tech talk at the Ridgecrest (SARC) ham club; Chip, N6CA now back on with higher Omni 10 Ghz at home since reroofing.

Elmers- To help you get on the air on the microwave bands, the following SBMS members are willing to assist you in assembly and test of equipment and mentoring as necessary:

Ken Halford, WB6DTA elmer group meets 3rd wed of the month 6:00 to 10:00 p.m. at 2901 Joaquin Burbank, CA 91504 818-848-9059.

Joe Saddler, WA6PAZ elmer group meets the last Saturday of each month following the TRW swap meet at 13909 Fidler in Bellflower CA. Phone 714-704-7937 or 562-867-3294 to confirm intentions a couple of days in advance. Directions to Joe's is exit the 105 Freeway at Bellflower Blvd. Go south to Rosecrans Ave. Turn right (west) on Fidler and head north to 13909.

Dave Laag, K6OW in Moreno Valley, CA at 11614 Indian St. 909-924-1517.

Dick Bremer, WB6DNX in Brea, CA at 1664 Holly 714-529-2800

Al Johnson, K6LJM (ATV) in Running Springs, CA 909-867-7511

Dick Kolbly, K6HIJ 26335 Community in Barstow, CA 760-253-2477

Chuck Swedblom, WA6EXV in Ridgecrest, CA 760-377-4972

Bill Burns, WA6QYR 247 Rebel Rd, Ridgecrest, CA 760-375-8566

Scheduling

1 January 1998 Bill, WA6QYR new RF safety requirements for amateur radio stations. See December Pacific Division News Update in this SBMS newsletter.

17-19 Jan ARRL VHF Sweepstakes (microwavers can play too.)

5 Feb. Chip, N6CA tech talk

February annual SBMS dinner Dan, KN6VR and Eric, KD6GLP in charge

5 Mar. Doug , K6JEY rubidium standards

7 Mar The George QTH-QTH QSO event

2 Apr. Chuck, WA6EXV tech talk

9 May ARRL 2304 Mhz Spring Sprint

13-15 Jun. ARRL VHF QSO Party

27-28 Jun. ARRL Field Day

1-2 Aug. ARRL UHF Contest

15-16 Aug. ARRL 10 Ghz and Up Contest 1st half

12-14 Sep ARRL VHF QSO Party

19-20 Sep ARRL 10 Ghz and Up Contest 2nd half

"Wants and Gots for sale"

Need HP8411a Harmonic Converter Dick K6HIJ 760-253-2477.

Want 10 Ghz 1-2 w solid state amp, Shure SM33 or 333 microphone, "Dial String" for HP8555 plug-in Doug K6JEY 562-424-3737.

Want schematic Heathkit IO-4530 scope Bill WA6QYR 760-375-8566.

Want 24 Ghz circulator Al K6LJM 909-867-7511

Want HP-478A thermister Ed K6ODV 909-689-9026.

For Sale Heathkit HW-100 with manual, ps, some spare tubes \$200 Bill WA6QYR 760-375-8566.

Free antenna rotator for BIG dish, very heavy Ed W6OYJ 619-453-4563

For sale or trade 2 four wavelength yagis 450-460 Mhz, DEM 2 stage 10 Ghz preamp kit 1 dB NF no box Doug, K6JEY 562-424-3737.

Other reports-

I recently began surgery on a WAVECOM jr. 2.4 GHz wireless video TX/RX pair to improve it's range. I am currently looking for a source of SMA male/female connectors for the small .085" cable that comes out of the RF modules. Also, once I find the connectors, how are they installed? Any info on the above would be appreciated. Eric Fort -kd6glp Eric Fort <efort@www.fortconsulting.com

SBMS and other microwavers, Because the information has been out of print and people have requested it, I've converted the series "Designing a Station for the Microwave Bands" to HTML and posted it on my higher speed packet pages at: <http://www.tapr.org/~n6gn/hr88/articles.html> This is essentially the material from a three part series originally published in Ham Radio Magazine in 1988 just before the magazine went out of business. These articles describe an approach to amateur microwave station design which provides fully phaselocked, all-mode operation on all of the amateur VHF-microwave bands. The design presented uses a bare minimum of microwave hardware along with a single phaselock board, used repeatedly with minor changes, and allows all the features of a multi-mode amateur HF (20-30 MHz range) transceiver to be translated to any or all of the amateur UHF or microwave bands from 144 MHz to 24,192 Mhz. Complete construction details are also included for a 10 Ghz implementation including preamplifier/amplifier and mixer which along with the phaselocked LO provides a complete 10,368 MHz narrowband station. The current station at n6gn uses this approach with RF 'heads' for 144, 1296 and 10,368 Mhz. This design is now more than 10 years old but I believe it's still relevant and perhaps some of the readers of this list will not have seen it and find it of interest. Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org

Internet: ge@sr.hp.com n6gn@sonic.net

N6GN's Higher Speed Packet Page <http://www.tapr.org/~n6gn/index.html>

See the 1997 microwave contest results (approx) for the SBMS and pictures at: <http://www1.ham-radio.com/sbms/1997test.html> 73 N6CA Chip Angle <chip@anglelinear.com>

The "World Above 1000MHz" webpages (URLs in signature) have recently been updated with news of the Cardiff 24GHz beacon (GB3AMU), new pages of European microwave beacon listings, 47GHz information and a brief look at the 47GHz equipment at the recent Martlesham Microwave Round

Table meeting. Prospective newcomers to these frequencies should take a look and follow the links to the dozens of other sites on the subject....you might like what you see and decide to have a go yourself!

73 from Peter, G3PHO Editor: RSGB Microwave Newsletter

Microwave Homepage (The World above 1000MHz):

<http://freespace.virgin.net/p.day/ghz.htm>

(mirror site at: <http://www.geocities.com/SiliconValley/Vista/7012>

and at <http://www.qsl.net/g3pho>

ARRL PACIFIC DIVISION UPDATE DECEMBER, 1997 by Brad Wyatt, K6WR, Director, Pacific Division, ARRL WWW Pacific Division Home Page -- <http://www.pdarrrl.org/>

Ham RF Exposure Guidelines Effective Jan. 1, 1998:-Compliance with the new guidelines should be relatively easy for the vast majority of hams and should require few changes in current operating practices. These Amateur Radio rules will deal with the general public in a new substantial manner; therefore, compliance is very important. There are numerous information resources, as follows:

An excellent summary of the guidelines is contained in October QST, pages 51 and 52. An even more comprehensive article will be in the January 1998 QST, and an ARRL book on this subject should be available soon. A "RF-Exposure Information Package" is available from ARRL Technical Information Service for \$2 for members, \$4 for non-members, postpaid. The Pacific Division Updates for October and November contained further "How To" details. These documents are available on the Pacific

Division site at <http://www.pdarrrl.org/>. FCC has published OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," Edition 97-01, August 1997. Supplement B, "Additional Information for Amateur Radio Stations," should be available in

November. For the latest news and linkage to related Web sites, visit the ARRL RF-Safety Web page at <http://www.arrl.org/news/rfsafety>. To obtain the FCC documents refer to the FCC site at

<http://www.fcc.gov/oet/dockets/et93-62/> and go from there. As part of the implementation of these new guidelines, there is a new Form 610 series, dated Sept. 1997. There are three new forms in this series: Form 610 is for basic transactions, Form 610-A is for operating privileges for foreign nationals, and Form 610-B is for club stations. These new forms MUST be used for all licensing transactions after Jan. 1, 1998. The new forms all contain a statement to the effect that the applicant understands and complies with the new RF Safety regulations. The new 610 form series can be obtained on the FCC WWW site at <http://www.fcc.gov>, the ARRL Web page at <http://www.arrl.org>, by contacting the FCC Central Phone Service at 1-888-CALLFCC (225-7245), by writing FCC at 1270 Fairfield Road, Gettysburg PA, 17325-7245, or by contacting the ARRL at (860) 594-0200 or at 225 Main St., Newington CT, 06111-1494.

There are several key dates to remember. 1. New licensees after Jan. 1 1998 must be in compliance with the new regulations at the time of first licensing. That is, the applicant will certify compliance by the very act of signing off on the new 610. 2. All those licensed prior to Jan. 1, 1998, will have to be in compliance with the new RF exposure regulations whenever a new Form 610 is filed for license renewal, upgrade, or other modification. 3. All stations, new or old, must be in compliance with the new regulations no later than Sept. 1, 2000. This date must be met whether a Form 610 has been filed previously or not.

FCC Announces Electronic Renewal Form 900:- The FCC's Wireless Telecommunications Bureau (WTB) has consolidated eight renewal forms into one. Form 900, "Application for Electronic Renewal of Wireless Radio Services Authorizations," is an interim measure to permit all licensees of the WTB, including hams, to renew their licenses electronically. Form 900 is only for renewals, not for license modifications. You can only enter changes (e.g., name, address) using Form 900 as a part of the process of renewing your license. You can only use Form 900 if the expiration date on your license falls within the renewal window, which is within 120 days of expiration. You cannot use Form 900 to renew an expired license. Form 900 may only be submitted electronically. Access Form 900 on the WTB Electronic Commerce page, <http://www.fcc.gov/wtb/electcom.html>. Select "Production Page for

Electronic Commerce Applications" to access the Form 900. Thanks - FCC and ARRL Letter Oct. 3.

The new FCC Commissioners took office in early November. They are William Kennard, Chairman, previously General Counsel of FCC, Michael Powell, previously chief of staff at the Justice Department's antitrust division, Harold Furchtgott-Roth, an economist formerly with the House Commerce Committee, and Gloria Tristani, formerly a New Mexico state utilities regulator. They join Susan Ness, the sole commissioner who continues.

ARRL Radio Coaches Program to Enhance Elmering:- Over the years in the pages of QST, countless letters and articles have been written about Elmers, those patient, inspired souls who thoroughly enjoy bringing newcomers into the world of Amateur Radio. Now, the ARRL's new Radio Coaches program takes Elmering to new levels. Through the Radio Coaches program, you and your fellow club members can become part of a national effort to better the lives of youth using Amateur Radio. And ARRL will provide the game plan and materials! Radio Coaches stems from the kickoff of America's Promise, the

Alliance for Youth, a national campaign to improve the lives of the nation's young people and put them on paths for brighter, more productive futures. The mission will be to give young people an ongoing relationship with a caring adult and a marketable skill through effective education. Amateur Radio will be our chief tool. Through Radio Coaches, we want to reinforce the idea that AmateurRadio is a "sport for the brain." Ham radio provides not only a lifetime of enjoyment, but also, potentially, a lifetime career. To get involved contact Radio Coaches, c/o Field Services Department, ARRL, 225 Main St., Newington CT, 06111; or e-mail coaches@arrl.org. Thanks, ARRL Letter, Nov. 14, 1997.

73's Bill